

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A device for manipulating and positioning an organ, said device comprising:

an inflatable member having an opening passing therethrough and an organ contacting surface;

a positioning element comprising a lumen passing through at least a portion thereof, said positioning element connected to said inflatable member and sealing one end of said opening, wherein an opposite end of said opening remains open and passes through said organ contacting surface, said lumen configured to be coupled to a vacuum source and fluidly communicate with said opening through said inflatable member, wherein said positioning element is configured to position said inflatable member and deliver negative pressure to a surface of the organ via said lumen and said opening, when said organ contacting surface contacts the organ.

2. (Original) The device according to claim 1, wherein the organ is a beating heart.

3. (Previously Presented) The device according to claim 1, wherein one or more seams of said inflatable member is positioned on the interior of said inflatable member.

4. (Original) The device according to claim 1, wherein the organ contacting surface comprises an atraumatic, compliant material.

5. (Canceled)

6. (Original) The device according to claim 4, wherein said atraumatic, compliant material is configured to conform to, and diffuse suction exerted on, the organ.

7. (Previously Presented) The device according to claim 1, further comprising a vacuum distribution element fluidly interconnecting said lumen and said opening, said vacuum distribution element being configured to diffuse the negative pressure applied to the surface of the organ.

8. (Previously Presented) The device of claim 7, wherein said vacuum distribution element is selected from the group consisting of foam, gel, fabric, gauze, and material of the type conventionally used in neuro sponges.

9. (Previously Presented) The device of claim 1, further comprising an attachment element interconnecting said inflatable member and said positioning element, wherein said attachment element fluidly seals a connection of said lumen with said opening and allows limited freedom of movement of said inflatable member with respect to said positioning element, such that when said inflatable member is engaged with the surface of the organ, normal movements of the organ are permitted by movement of said inflatable member with respect to said positioning element.

10. (Previously Presented) The device of claim 9, wherein said attachment element comprises a flexible plastic.

11. (Previously Presented) The device of claim 9, wherein said attachment element comprises a series of segments.

12. (Previously Presented) The device of claim 9, wherein said attachment element comprises a flexible linkage mechanism.

13. (Previously Presented) The device of claim 9, wherein said attachment element comprises a ball and socket mechanism.

14. (Previously Presented) The device of claim 9, wherein said attachment element is configured to allow vertical and lateral movement of said inflatable member, when engaged with the organ, where the organ is a beating heart, and when said positioning element is held relatively stationary, so as not to reduce negative effects on hemodynamics of the beating heart.

15. (Previously Presented) The device of claim 1, wherein said positioning element further comprises a spring to enable axial movement of said inflatable member relative to said positioning element.

16. (Previously Presented) The device of claim 1, further comprising an inflation line configured to be connected with a source of fluid, and fluidly connected to said inflatable member, said inflation line being independent of a fluid pathway established by said lumen.

17. (Previously Presented) The device of claim 16, wherein inflatable member is resiliently deformable to a deflated configuration by application of negative pressure through said inflation line.

18. (Previously Presented) The device of claim 16, wherein said inflatable member is inflatable by delivery of a pressurized fluid through said inflation line.

19. (Previously Presented) The device according to claim 17, further comprising a sheath configured to receive said inflatable member in said deflated configuration.

Claims 20 – 22 (Canceled)

23. (Previously Presented) The device of claim 1, further comprising a securing means for securing said device to a stationary object.

24. (Canceled)

25. (Currently Amended) A method of manipulating and positioning an organ, said method comprising:

introducing a deflated member of a device into a body cavity;
inflating the member to an inflated configuration;
contacting the organ with the inflated member;
applying a vacuum to the organ through an opening that passes through an organ contacting surface of ~~in~~ the inflated member, while maintaining the inflated member in the inflated configuration, to create an intimate engagement between the organ and the inflated member; and
moving the inflated member, to manipulate or position the organ.

26. (Previously Presented) The method of claim 25, wherein the deflated member is introduced into the body cavity through an opening created by one of a sternotomy, mini-sternotomy, thoracotomy, mini-thoracotomy and a port.

27. (Previously Presented) The method of claim 25, wherein the deflated member is encased in a sheath during said introducing.

28. (Previously Presented) The method of claim 25, wherein the pressurized fluid is selected from one of the group consisting of gas, saline, water, contrast solution, and combinations thereof.

29. (Previously Presented) The method of claim 25, wherein the organ is a beating heart.

30. (Previously Presented) The method of claim 25, further comprising diffusing a flow of the vacuum through said opening to the organ.

31. (Canceled)

32. (Canceled)

33. (Original) The method according to claim 25, further comprising securing said device to a stationary object.

34. (Original) The method according to claim 25, further comprising performing a coronary artery bypass procedure on the organ.

35. (Original) The method according to claim 25, wherein said device is manipulated and positioned absent clinically relevant hemodynamic instability.

36. (Original) A kit for manipulating and positioning an organ, said kit comprising:

- (a) at least one device according to claim 1; and
- (b) instructions for using said device to manipulate and position the organ.

37. (Original) The kit according to claim 36, comprising a plurality of devices.
38. (Original) The kit according to claim 36, further comprising at least one sheath for delivering said device into a body cavity.
39. (Original) The kit according to claim 36, further comprising at least one securing means for securing said device to a stationary object.
40. (Original) The kit according to claim 36, further comprising at least one regulator for regulating a flow of vacuum.
41. (Currently Amended) A device for manipulating and positioning an organ, said device comprising:
an inflatable member having an opening passing therethrough and an organ contacting portion surrounding a distal end of said opening, wherein said opening passes through said organ contacting portion;
a first lumen connected to a proximal end of said opening and forming a fluid seal with said proximal end, said first lumen configured to deliver negative pressure through said opening;
a second lumen fluidly connected to said inflatable member and not fluidly connected with said opening; and
a positioning element connected to said inflatable member.
42. (Previously Presented) The device of claim 41, further comprising an attachment element interconnecting said inflatable member and said positioning element, wherein said attachment element allows limited freedom of movement of said inflatable member with respect to said positioning element, such that when said inflatable member is engaged with the surface of the organ, normal movements of the organ are permitted by movement of said inflatable member with respect to said positioning element.
43. (Previously Presented) The device of claim 41, further comprising a vacuum distribution element fluidly interconnecting said lumen and said opening, said vacuum distribution element being configured to diffuse the negative pressure applied to a surface of the organ through said distal end of said opening.

44. (New) A device for manipulating and positioning an organ, said device comprising:
an inflatable member having an opening passing therethrough and an organ contacting surface;

a positioning element comprising a lumen passing through at least a portion thereof, said positioning element connected to said inflatable member and sealing one end of said opening, said lumen configured to be coupled to a vacuum source and fluidly communicate with said opening through said inflatable member, wherein said positioning element is configured to position said inflatable member and deliver negative pressure to a surface of the organ via said lumen and said opening, when said organ contacting surface contacts the organ; and

an attachment element interconnecting said inflatable member and said positioning element, wherein said attachment element fluidly seals a connection of said lumen with said opening and allows limited freedom of movement of said inflatable member with respect to said positioning element, such that when said inflatable member is engaged with the surface of the organ, normal movements of the organ are permitted by movement of said inflatable member with respect to said positioning element; wherein said attachment element comprises a flexible linkage mechanism.

45. (New) A device for manipulating and positioning an organ, said device comprising:
an inflatable member having an opening passing therethrough and an organ contacting surface;

a positioning element comprising a lumen passing through at least a portion thereof, said positioning element connected to said inflatable member and sealing one end of said opening, said lumen configured to be coupled to a vacuum source and fluidly communicate with said opening through said inflatable member, wherein said positioning element is configured to position said inflatable member and deliver negative pressure to a surface of the organ via said lumen and said opening, when said organ contacting surface contacts the organ; and

an attachment element interconnecting said inflatable member and said positioning element, wherein said attachment element fluidly seals a connection of said lumen with said opening and allows limited freedom of movement of said inflatable member with respect to said positioning element, such that when said inflatable member is engaged with the surface of the organ, normal movements of the organ are permitted by movement of said inflatable member with respect to said positioning element; wherein said attachment element comprises a ball and socket mechanism.

46. (New) A device for manipulating and positioning an organ, said device comprising:
an inflatable member having an opening passing therethrough and an organ contacting surface;

a positioning element comprising a lumen passing through at least a portion thereof, said positioning element connected to said inflatable member and sealing one end of said opening, said lumen configured to be coupled to a vacuum source and fluidly communicate with said opening through said inflatable member, wherein said positioning element is configured to position said inflatable member and deliver negative pressure to a surface of the organ via said lumen and said opening, when said organ contacting surface contacts the organ; and

an attachment element interconnecting said inflatable member and said positioning element, wherein said attachment element fluidly seals a connection of said lumen with said opening and allows limited freedom of movement of said inflatable member with respect to said positioning element, such that when said inflatable member is engaged with the surface of the organ, normal movements of the organ are permitted by movement of said inflatable member with respect to said positioning element; wherein said attachment element is configured to allow vertical and lateral movement of said inflatable member, when engaged with the organ, where the organ is a beating heart, and when said positioning element is held relatively stationary, so as not to reduce negative effects on hemodynamics of the beating heart.